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XV.—*Notes on the Avifauna of Italy.* By HENRY HILLYER GIGLIOLI, Sc.D., C.M.Z.S., F.M.B.O.U., Professor of Zoology and Comparative Anatomy of Vertebrates in the R. Istituto di Studii Superiori, Florence.

THESE notes are based upon the extensive ornithological series of the Central Collection of Italian Vertebrates in the Royal Zoological Museum of Florence. I began such a collection about five years ago, for the purpose of illustrating the vertebrate fauna of Italy. I have been most fortunate, and in that short period have been able to get together and place in systematic order more than 16,000 specimens of Italian Vertebrates, representing 1052 species, of which no less than 150 are *new* to the Italian fauna. As I take the utmost care only to accept for this collection specimens the localities of which are well authenticated, the value of the collection itself is patent.

The Italian birds are represented in the collection by 1695 specimens, belonging to 390 species; they are all mounted by my excellent taxidermist, Signor Magnelli; but, besides many skins, I have a good collection of skeletons and sterna kept separately, and an incipient collection of eggs and nests.

I have also commenced forming a collection of unfledged young, most of which, for obvious reasons, are preserved in alcohol. It is on this portion of the Italian faunistic collection that I have taken a few notes which will, I hope, interest the readers of 'The Ibis.' I may add that the ornithological series may be considered nearly complete; only a few species of accidental occurrence are not represented as yet. Amongst these I cite the following, undoubtedly authentic Italian specimens of which are in existence:—

AQUILA WAHLBERGI, Sundev.

Pisa Museum; shot near Florence, March 6th, 1843.

BUTEO FEROX (S. G. Gm.).

Genoa Civic Museum; shot near Genoa, April 8th, 1869.

HIEROFALCO SAKER (Gm.).

Cagliari Museum (*fide* Salvadori).

COCCYZUS ERYTHROPHthalmus (Wils.).

Pisa University Museum; shot near Lucca in 1858.

CAPRIMULGUS RUFICOLLIS, Temm.

In the collection of C. A. Wright, Esq.; shot in Malta at the end of May 1860. A second specimen was shot in that island on the 12th of May 1865.

CYPSELUS PALLIDUS, Shelley.

In the collections of Capt. Feilden and C. A. Wright, Esq.; both females; shot in Malta in May 1874.

TURDUS OBSCURUS, Gm.

Turin University Museum, shot in the neighbourhood in November 1827; Pisa Museum, shot near Turin in November 1828: the types of *T. weneri*, Gené. A third specimen, caught near Siena in the autumn of 1878, is in the collection of Prof. Magni-Griffi at Siena.

TURDUS ATRIGULARIS, Temm.

Turin University Museum; shot in the neighbourhood in January 1826. A second specimen is in the Pavia Museum, captured near Casteggio in the winter of 1849. A third, an adult male, is in the collection of Signor Apelle Dei, at Siena;

it was shot in the Maremma, at Belforte, on the 30th of November 1863.

DROMOLÆA LEUCOPYGIA (Brehm).

Collection of C. A. Wright, Esq.; shot on the 18th of April 1872 in Malta.

SAXICOLA LEUCOMELA (Pall.).

Male, in the Civic Museum, Genoa; shot at Cornegliano in December 1860.

ANTHUS OBSCURUS (Lath.).

One specimen is mentioned by Mr. C. A. Wright as having come into his hands in Malta.

MELANOCORYPHA YELTONIENSIS (Forst.).

A specimen caught in Piedmont in 1808 was figured by Bonelli, but unfortunately not preserved.

AMMOMANES CINCTURA (Gould).

A single female, obtained by Mr. C. A. Wright in Malta in April 1867, and now in Mr. Dresser's collection. The *A. deserti* mentioned by Mr. Wright as being in Dr. Schembri's possession in Malta is probably to be referred to the lesser species. Salvadori includes it in his work as *A. lusitana*.

CALANDRELLA MINOR (Cab.).

A single specimen, in Mr. Dresser's collection, obtained in Malta by C. A. Wright, Esq., in November 1862.

ERYTHROSPIZA GITHAGINEA (Licht.).

One male specimen, netted near Pisa in the spring of 1839, now in the Pisa Museum; a second, female, netted at Cologno (Verona) in the autumn of 1850, now in Signor Carraro's collection at Verona (Municipal Palace). In Malta it is not unfrequent; and specimens exist in the collections of Schembri, Wright, and Dresser, caught on that island.

AGELÆUS PHŒNICEUS (Linn.).

A male, caught at Bellinzago in October 1864, is in Count Camozzi's collection at Bergamo. I have reason to believe that a specimen of this species was plucked and roasted in the Florence market in November 1877.

PTEROCLES ARENARIUS (Pall.).

In the small University Museum at Messina, mostly formed by Benoit's collection, is a female of this species. Benoit himself assured me that it had been captured in Sicily, but he could not remember when. In his well-known '*Ornithologia Siciliana*,' at p. 117, however, he mentions this species as unknown to him; thus the specimen I mention must have been caught after 1840.

HOUBARA UNDULATA (Jacq.).

There is a *Houbara* in the University Museum in Malta, which, if I remember rightly, is of this species. I was told that it had been shot on the island many years ago, and it might be the male described by Schembri as shot by G. Borg Madiona in 1841 (*Cat. Orn. di Malta*, p. 85). On this unique specimen rests, as far as I am aware, the evidence of the occurrence of this species in our subregion.

HOPLOPTERUS SPINOSUS (Linn.).

A female, shot in Malta on the 11th October 1865, is in Mr. Wright's collection. A second specimen, captured at Cattaro in May 1859, is in Finger's Collection in the Vienna Museum. A male from Sicily (??) is in the Civic Museum at Pavia.

CHARADRIUS FULVUS, Gm.

A specimen is in the collection of Signor A. Zammit in Malta (*fide* Wright), where it was shot in May 1861. Other instances of the occurrence of the Eastern Golden Plover in the island are recorded.

ACTITURUS LONGICAUDUS (Bechst.).

A splendid specimen is in the Genoa Civic Museum; it was shot in the neighbourhood in October 1859. A second specimen was secured by C. A. Wright, Esq., in Malta, on the 17th of November 1865, and is, I believe, still in his possession.

ANTHROPOIDES VIRGO (Linn.).

Has been recorded from Tuscany (Savi, 1828), Sicily (Doderlein, 1833), and Malta (Wright, March 1861); but none have been preserved, so far as I am aware. A specimen of

this species is in the University Museum at Padua, with the indication "Valli Padovane," without any date.

BERNICLA LEUCOPSIS (Bechst.).

A very fine specimen is in the Naples Zoological University Museum ; it was shot near Foggia, in the winter of 1877, and bears the name of *B. brenta*, under which Prof. A. Costa published a note on its occurrence.

CHENALOPEX ÆGYPTIACUS (Linn.).

A single specimen was said to be in the small Natural-History Museum at Syracuse, shot in the neighbourhood many years ago (*vide* Doderlein). I visited that museum in September 1878, but saw no such specimen ; it is therefore with much hesitation that I include this species in the present list.

OCEANITES OCEANICUS (Kuhl).

One specimen was shot near Cagliari (*vide* Cara), and now in the University Museum there (*vide* Salvadori).

THALASSEUS MEDIUS (Horsf.).

A specimen of this species in spring plumage, from Sicily, is in the Leyden Museum (*vide* Schlegel). I believe that a second specimen is in the Palermo Museum.

LARUS GLAUCUS, Brünn.

I know of two specimens undoubtedly Italian :—one, adult, in the Genoa University Museum, without date of capture ; a second, also adult, in the private collection of Dr. Orsini at Genoa, where it was shot in the harbour on the 10th of April 1877.

LESTRIS CREPIDATUS (Banks).

Specimens, captured in Piedmont, have been seen and referred to this species by Salvadori ; one other, caught in the Marche, is in the possession of the same author. I have seen in the Naples University Museum a specimen of this species, said to have been shot in the neighbourhood in 1870. Another is at Venice, in the Ducal-Palace Museum.

With the addition of the above, which have nearly all un-

doubtedly occurred in Italy, the sum of the species of the Italian avifauna would be 418. In the catalogue which I recently gave in the first part of my 'Avifauna Italica,' 424 species are enumerated, and I have since added five more; but recent investigations have convinced me that the following species, included in that list, are, so far as our present knowledge goes, to be excluded:—

Milvus ægyptius (Gm.); *Falco minor*, Bp.; *Carine glaux* (Savigny); *Turdus naumanni*, Temm.; *Saxicola melanoleuca* (Güldst.); *Luscinia fluviatilis* (Wolf); *Aedon galactodes* (Temm.); *Gallinago brehmi* (Kaup); *Balearica pavonina* (Linn.); *Adalarus leucophthalmus* (Licht.); *Megalestris catarrhactes* (Linn.).

Some of these will call for further remarks in the following notes; others of them *may* have occurred, but no authentic Italian specimens are known; others, again, as *Carine glaux*, *Saxicola melanoleuca*, and *Gallinago brehmi*, cannot, I believe, be considered good species. I have not mentioned the notorious *Synæcus lodoisiæ*, of which the unique and type specimen is in the Turati collection of Milan; for, having carefully examined it, I quite agree with several distinguished ornithologists who have seen it, that it is merely a variety of the Common Quail. Our collection possesses an equally singular variety of the Grey Partridge.

While concluding these general remarks on the Italian ornis, I may add that, besides some of the species mentioned in the preceding list, some of the following are likely to occur in our subregion, and may even have already been caught, but escaped the ornithologist's eye:—

Accipiter brevipes (Severtz.); *Melierax gabar* (Daud.); *Buteo desertorum* (Daud.); *Aquila mogilnik*, S. G. Gm.; *A. adalberti*, L. Brehm.; *A. nipalensis*, Hodgs.; *A. rapax* (Temm.); *Elanus cæruleus* (Desf.); *Asio capensis* (Smith); *Ceryle rudis* (Linn.); *Acridula tephronota* (Günth.); *Turdus ruficollis*, Pall.; *Calliope camtschatkensis* (Gm.); *Saxicola isabellina*, Rüpp.; *Accentor montanellus* (Pall.); *Daulias philomela* (Bechst.); *Sylvia rueppelli*, Temm.; *Reguloides superciliosus* (Gm.); *Hypolais caligata* (Licht.); *H. opaca* (Licht.);

H. olivetorum (Strickl.)*; *Locustella lanceolata* (Temm.); *Motacilla citreola*, Pall.; *Calandrella bætica*, Dresser; *Am-momanes deserti* (Licht.); *Otocorys penicillata* (Gould); *O. bilopha* (Rüpp.); *Certhilauda duponti* (Vieill.); *C. desertorum* (Stanley); *Emberiza cinerea*, Strickl.; *Passerculus chrysophrys* (Pall.); *Garrulus krynicki*, Kalenicz; *Turtur senegalensis* (Linn.); *T. risorius* (Linn.); *Phasianus colchicus*, Linn.; *Glareola melanoptera*, Nordm.; *Tryngites rufescens* (Vieill.); *Ardea melanocephala*, Childr. & Vig.; *Cygnus immutabilis*, Yarrell; *Chen hyperboreus* (Pall.); *Anser erythropus*, Linn.; *A. brachyrhynchus*, Baill.; *Querquedula formosa* (Georgi); *Ædemia perspicillata* (Linn.); *Cosmonetta histrionica* (Linn.); *Microcarbo africanus* (Gm.); *Procel-laria leucorrhœa* (Vieill.); *Chroicocephalus ichthyæctus* (Pall.); *Alca troile* (Linn.).

The following species, represented in the collection of Italian Vertebrates, call for special remarks:—

AQUILA MACULATA (Gm.).

This species is not common in Italy; but Genoa is the locality where, to my knowledge, it can be more easily obtained than elsewhere. Specimens, however, exist in most of our museums; and although those I have examined vary in size, I have been unable to find amongst them examples of the two forms distinguished by most modern ornithologists, viz. *A. pomarina* and *A. clanga*. The four specimens in the Florence Museum appear to belong to the smaller race. I must, however, confess that I am very loath to admit true specific distinction between the two, as I consider the practice of founding such distinctions merely on difference of size very hazardous in ornithology.

NISAETUS FASCIATUS (Vieill.).

It may be of interest to know that this Eagle, so common in Sardinia, is not unfrequently caught in the woods of Rossore, near Pisa.

* Prof. T. Prada, in his 'Avifauna di Pavia,' p. 79, footnote, mentions a specimen of this species from Nice!?, as existing in the Pavia Civic Museum. I much doubt if such be really the case, not having examined the specimen; it may be one of *H. pallida*.

NISAETUS PENNATUS (Gm.).

I possess two fine specimens of this rare bird—one shot at Vado (Savona) in October 1854, the other near Rome in the autumn of 1872; both are males.

MILVUS MIGRANS (Bodd.).

The Florence collection has no less than five specimens of this rare Kite:—a pair, male and female, from Escarene (Nice), December 1877; a male in juvenile plumage, shot near Florence in the autumn of 1856; and two magnificent specimens, male and female, from Terracina, April and May 1879.

CERCHNEIS NAUMANNI (Fleisch.).

This Kestrel is a straggler with us on the continent, but appears to be pretty common during summer in Sicily. I have one from Genoa (April 1873); and another was shot by myself at Burano in the Maremma in March 1876: both are adult males. Females are much scarcer in our museums.

FALCO COMMUNIS (Gm.).

Our collection has now a fine series of this species, both young and adults, male and female. I have now come to the conclusion that the specimens caught in Italy, and referred to *F. minor*, are merely the males of this species, in which the two sexes differ greatly in size.

FALCO BARBARUS, Linn.

I have an undoubtedly genuine specimen of this species, a nearly adult female, shot by my friend Marquis Nerli at Papillonis, near Oristano (Sardinia), on the 27th of February 1878.

FALCO FELDEGGI, Schleg.

While writing these notes I have had the good fortune to receive a magnificent specimen of this rare species. It is an adult male, and was shot on the 28th of November last at Mesa, near Velletri, by Count E. di Mirafiore. It answers very well to the description of the adult male of *F. biarmicus* in Sharpe's 'Cat. Birds Brit. Mus.' i. p. 392. This is the

second instance of the occurrence of this Falcon in Italy proper: a first specimen was found in the market at Rome by Salvadori in 1853, and is in his collection; its description tallies well with our specimen. This species has a very good feature in its short toes in comparison with those of the peregrinoid Falcons. The type, shot in Dalmatia, is in the Leyden Museum; and I have lately seen two more of Baron Feldegg's specimens in the Prague Museum, also from Dalmatia; they still bear Schlegel's labels, and the date of capture (1829).

FALCO ELEONORÆ, Gené.

Our collection has a fine series from Vacca and South Antioco (Sardinia). The light and dark forms evidently breed together; and two of my dark specimens are males.

CIRCUS CINERACEUS (Montag.).

This is a very rare species with us. I possess three specimens—an adult male, shot at Pigna d'Andorra (Ventimiglia) on the 1st of May 1878, and two young birds, both males, one shot at Genoa in September 1875, the other at Greve, south of Florence, in June 1873.

GLAUCIDIUM PASSERINUM (Linn.).

This is a rare species, and only occurs in our higher Alps. I have seen three specimens—two from the Italian Tyrol, one of which I possess; the third, in Count Ninni's collection at Venice, is from the Alps above Belluno.

CARINE NOCTUA (Scop.).

This is a very common bird all over Italy, and generally used as a decoy for catching small birds with bird-lime; it varies much in size and colour, and often presents intermediate stages between the two extremes, *C. noctua* and *C. glaux*; I therefore believe that the latter cannot be considered a distinct species.

NYCTALA TENGMALMI (Gm.).

A rare species with us. Our collection at Florence possesses two specimens—one shot near Nice on the 19th of November 1876, the other at Pinerolo in the winter of 1860; the latter is a female, as is probably the former also.

PICUS LILFORDI, Sharpe & Dresser.

The Italian collection has four specimens of this Woodpecker:—a pair from Genoa, both females, one shot on the 12th of January 1874 at Livellato, the other on the 15th of January 1880 at Rivarolo; a male from Ancona, December 1870; and a second male from Dalmatia, shot on the 10th of November 1880. I did not observe this species in Corsica; but Prof. Kolombatovic, of Spalato, assured me that it is not rare in Dalmatia. All these have the white of the back crossed by thick black bars.

PICUS LEUCONOTUS, Bechst.

Our collection possesses a male, caught near Genoa in the autumn of 1855, and received in exchange from Signor De Betta, of Verona, which, on account of its white back faintly streaked with black, must be referred to this species. A second specimen, a female, caught in the neighbourhood, is in the Genoa Civic Museum, if I remember rightly. No other distinction exists between these two Woodpeckers; and I would fain ask my brethren of the B. O. U. whether, under the circumstances, I ought to regard *P. lilfordi* and *P. leuconotus* as really distinct species, both occurring in Italy, or whether I should not rather follow the older authors, and consider both as one species under the old name of *P. leuconotus*?

PICUS MEDIUS, Linn.

Not common. I have one adult male and two adult females from Spoleto and a female from Prato. It is a bird not often seen in Italian collections.

PICOIDES TRIDACTYLUS (Linn.).

Very rare, and, as far as I know, only found in the Tyrol and Venetian Alps. I have a male, shot in the autumn of 1862 in the Alps near Trento.

DRYOCOPUS MARTIUS (Linn.).

Not rare in our Alpine forests; and I have received specimens from Valdieri, Ossola, and Cadore. I can hardly believe that this species is found in Sicily; but I may state that in the University Museum at Naples is a specimen said to

have been shot on Aspromonte, at the extreme end of Calabria, opposite Messina.

GEVINUS VIRIDIS (Linn.).

Our commonest Woodpecker. In Signor De Betta's collection at Verona is a beautiful albino specimen, entirely of a light canary-yellow, except the head, which is red; it was shot in the neighbourhood a few years ago. I may add that in Herr Finger's collection in the Vienna Museum is an albino of *Dryocopus martius*, wholly white, except the top of the head, which is red.

GEVINUS CANUS (Gm.).

Very rare and exclusively alpine; it appears to be less uncommon on the Eastern Alps. Our collection possesses two specimens—a male from the Valle di Non (Trento), November 1852, and a female shot near Cremona in December 1869.

COCCYSTES GLANDARIUS (Linn.).

Quite accidental, but more frequently occurring near Genoa. I have two specimens—one from near Pisa, April 1831, the other shot at Borzola, near Genoa, 20th March 1876; this is a male.

MEROPS PERSICUS, Pall.

Very rare. I know of one specimen shot at Bari a few years ago; and our collection possesses one of those mentioned by Marquis Durazzo as having been captured near Genoa in the spring of 1834, received in exchange from the Genoa University Museum.

? *CAPRIMULGUS TAMARICIS*, Tristram.

A curious small Goatsucker, which agrees very fairly with the description and plate of this species (*vide* P. Z. S. 1864, p. 170, and Ibis, 1866, p. 75, pl. xi.), has been received by me from a dealer in Genoa, with the assurance that it was shot near that city. It is a male, in good condition, but with the halluces rubbed off, and has all the appearance of having been mounted from the flesh. The dealer, Signor Borgioli, received it from a friend who had kept no record of the date

of its capture, which, however, from the condition of the specimen, cannot date many years back. It is with much doubt that I have included this bird in the Italian collection; and further comparisons are necessary for its specific determination; for, as every ornithologist knows, it is no easy matter to identify some of the *Caprimulgi*. This would be the first instance of the occurrence of *C. tamaricis* in Italy and in Europe. On examining my specimen some time ago Prof. Doderlein assured me that he had shot a similar one at Ustica (Sicily) a few years since, but had not preserved it.

CAPRIMULGUS ÆGYPTIUS, Licht.

While on a visit to the small University Museum in Malta in October 1878, my attention was called to three specimens of this species, one of which was labelled *C. europæus*, and considered by Dr. A. A. Caruana (who assured me that they had been all shot on the island about two years before) merely an *isabelline variety* of that common species. I obtained one specimen in exchange, a female; it was labelled *C. ruficollis*! On having it remounted I found that it had evidently been recently prepared. Even this species is an addition to the Italian avifauna. Baron G. Caruso, of Girgenti, told Prof. Doderlein (Avif. Sicil. & Mod. p. 344) that he had shot some years ago in that neighbourhood an isabelline *Caprimulgus*, most likely of the present species.

HIRUNDO RUFULA, Temm.

A rarity with us, and occurring less unfrequently at Genoa and at Bari, as far as my information goes. On the 25th of March 1877, the first Swallow I saw flying over the Arno in Florence, between S. Trinità bridge and Ponte Vecchio, was a specimen of this species, its reddish rump glowing conspicuously in the sunlight. I saw it again the next day, together with a *Chelidon urbana*; it afterwards disappeared. Our collection possesses two specimens—a male shot near Genoa in May 1859, and a female shot at Bari in August 1874. I believe that a few couples breed with us.

COTILE RUPESTRIS (Scop.).

My first communication to this Journal, in 1863, was on the

stay during winter of this species in some parts of Italy. I have since ascertained that it is abundant during that season in Sardinia and some parts of the Maremma. I have seen it myself flying in numbers at San Germano di Cassino, between Rome and Naples, in January 1879. It is most common in the mountains of Corsica.

ERYTHROSTERNA PARVA (Bechst.).

Quite accidental. Our collection possesses a single specimen, received in exchange from the University Museum, Genoa, which I have good reasons to believe to be the one mentioned by Marquis Durazzo as having been captured near that city in the spring of 1835. A second specimen, caught also in that neighbourhood a year before, is in the Civic Museum at Genoa.

LANIUS MERIDIONALIS, Temm.

Salvadori, in his excellent work on the Italian avifauna, expresses considerable doubt as to the occurrence of this species in Italy. Such a doubt can no longer be entertained; for the Florence collection of Italian vertebrates possesses no less than four specimens of this Shrike, two of which I received in the flesh. The first is a male, shot at Spoleto in February 1875, the second a female, shot at Borgheri, in the Maremma, on the 21st January 1878. The other two are from the neighbourhood of Nice—a male, captured on the 28th of December 1876, and a female, shot in February 1877. I have seen, besides, two other specimens, recently shot near Genoa, and now in Marquis Doria's museum.

ACREDULA IRBYI, Sharpe & Dresser.

This is, beyond doubt, the prevalent and only species in Central and Southern Italy, to the south of a line drawn across the Tuscan Apennines; I have also shot it in Corsica. It is a most distinct species, and, so far as I know, does not occur in Northern Italy. This would account for the apparent confusion which Salvadori made between this and the following species, and the statement of Messrs. Sharpe and Dresser that some of the specimens sent to them from Piedmont by Count Salvadori differed very little from the British Long-tailed

Tit. One can easily understand this ; for they were one and the same.

ACREDULA ROSEA (Blyth).

Our collection possesses a fine series of this species, *all* from Northern Italy, where it is the prevalent and, as far as my knowledge goes, the *only* species. I have seen no specimens shot as far south as Tuscany.

ACREDULA CAUDATA (Linn.).

I doubt very much if this species can be kept distinct from the preceding one, from which it differs only in having, when fully adult, a white head. It occurs sparingly in Northern Italy along with *A. rosea* ; and our collection possesses two specimens—one, a male, from Genoa, winter 1857, received in exchange from the Civic Museum ; the second, a female, was shot at Marcellise (Verona) in October 1870, and received in exchange from Signor De Betta.

PARUS ATER, Linn.

I have two specimens in the Italian collection—one from Sesto (Florence), and the other from Domodossola, both females, in which the upper part of the back is decidedly tinged with olive-brown. I shall gather further facts bearing on the case ; yet I may be allowed to express a doubt as to the specific validity of *Parus britannicus*, Sharpe & Dresser, which may prove to be no more than a strongly marked local race.

PÆCILE BOREALIS (Selys).

Rather rare, and, I believe, wholly confined to the alpine region. Our collection has received a fine male from Domodossola, shot in December 1876.

PÆCILE LUGUBRIS (Natt.).

Salvadori includes, doubtfully, this species in the Italian ornithology ; but I must state that he excluded Dalmatia, where this Titmouse is pretty abundant, from the Italian subregion, while I have reasons to entertain an opposite opinion. I must, however, add that, besides two Dalmatian specimens,

our collection possesses a fine adult male shot on the 2nd of February 1878, near Nice.

LOPHOPHANES CRISTATUS (Linn.).

According to my experience, this is a strictly alpine bird in Italy; and the specimens I have come from Nice and Domo-dossola; I was therefore rather surprised to find a specimen in the University Museum at Naples said to have been shot in that neighbourhood.

SITTA NEUMAYERI, Michah.

Including, as I now do, the whole Dalmatian coast as far as Budua in the Italian zoological subregion, I must add this interesting species to our ornithology. I found it pretty abundant along the precipitous rocks between Ragusa and Breno in October 1879, and was able to secure eight specimens.

CERTHIA FAMILIARIS, Linn.

Typical specimens of the northern Creeper are only found with us in the Alps; and I have received a series from Domo-dossola, in all of which the distinctive characters in opposition to those of the following species hold good, viz. larger size, lighter coloration on the upper parts, pure white beneath, shorter bill, and a much longer claw to the hallux.

CERTHIA BRACHYDACTYLA, Brehm.

This is our common form all over Italy; it is constantly a smaller bird than the alpine one, with darker upper parts, the white of the underparts more or less tinged with buff, a longer bill, and the claw of the hallux considerably shorter. I shall continue to gather data on the subject; but for the present I believe I am warranted in keeping these two forms distinct. I see that Mr. Dresser has very exceptional synthetic opinions regarding the Palearctic and Nearctic *Certhiæ*; but such views are rare with him, as may be seen in the case of the following species.

CINCLUS AQUATICUS, Bechst.

The European Dippers have been divided into no less than three distinct species—*C. aquaticus*, *C. melanogaster*, and *C. albicollis*; and, as I have recently shown in the eighth part

of my 'Avifauna Italica,' although there may be good reasons for distinguishing local races amongst the European Dippers, I cannot bring myself to admit of specific distinction. This species is subject to considerable individual variations of colour; and, although Italian specimens may generally be referred to what is called *C. albicollis*, I have from the same localities (and it is a sedentary bird) specimens which have all the characters of *C. melanogaster*, and I have seen others quite undistinguishable from typical *C. aquaticus*. Now I can scarcely admit the presence in Italy of three species of *Cinclus*, two of them actually breeding together in the same locality. I opine therefore that it is safer to return to the old notion, and to include the three forms under one specific denomination.

?? *TURDUS SIBIRICUS*, Gm.

Strange cases now and then startle and puzzle the working ornithologist; and amongst the strangest which have happened to me is, no doubt, the present one. On the 22nd of January, 1878, Signor Magnelli picked up in the Florence market, from amongst a lot of common Thrushes, the subject of the present notice, shot the day before near Grosseto (Maremma). At the moment I could refer it to no known species, but, after much searching and comparing, found that it nearly agreed with the young *T. sibiricus* figured in the 'Fauna Japonica,' I therefore set it down provisionally as that species, having no specimens for a better comparison. On dissection it proved to be a female; and before it was skinned I took the following measurements:—Long. tot. 260 millimetres, rostri 32, alæ 115, caudæ 100, tarsi 33. The inside of the mouth and the naked skin around the eye were orange-yellow; the bill horn-colour, yellowish at the base and along the edges; the tarsi and feet were dark horn-colour, lighter in front on the tarsi; claws black; iris chestnut-brown. Wings short; bill and legs heavy. The upper parts are of a grey colour, tinged with olivaceous, except the two external upper tail-coverts, which have a triangular white terminal spot. A broad but not clearly defined whitish eyebrow; a light circle

round the eye; and ear-feathers with whitish shafts. Sides of throat and breast with dark lanceolate blotches on a whitish ground-colour tinged slightly with yellowish. Abdomen white; sides of body also whitish in front, with dark lanceolate and crescentic blotches, greyish behind. Feathers on tibiae and under tail-coverts grey, each of the latter with a large white apical spot. Under wing-coverts whitish. The rectrices and remiges are of the same colour as the back, the former with a lighter inner web.

Only lately have I been able to examine in German museums specimens of *T. sibiricus*, and was quite surprised to find that it is a smaller bird than the one I have described, which is quite as large as a Missel-Thrush or a Blackbird. This puzzled me much; and I began to doubt whether our specimen was *T. sibiricus*, a careful comparison with female specimens of which can alone settle the question. Some ornithologists who have examined it opine that it may be a large *T. sibiricus*; but others remain in doubt. Very recently a high authority on ornithic matters shook his head at any such determination, and suggested hybridism as a way to solve the difficulty. But hybridism between which of our *Turdi*?! Could it be an undescribed species? I might have thought so; but the supposition of an unknown Thrush in Europe seems too preposterous to be entertained. When I can see my way out of this case, I shall hasten to inform my colleagues of the B. O. U.; but for the present I shall retain the name I first gave to this bird.

TURDUS DUBIUS, Bechst.

A magnificent male of this species was bought in the flesh in the Florence market; it was shot at Radda, in Chianti (Tuscany), on the 25th of November 1879, and is now in the Italian collection.

TURDUS VARIUS, Pall.

Our collection possesses a beautiful male of this fine species, shot in the Tuscan Casentino (Apennines), at Poggio Scali, on the 14th of October 1873. In the Roman University Museum

is another specimen, shot in that neighbourhood in the autumn of the same year.

TURDUS SWAINSONI, Cab.

The specimen figured by Durazzo is now in the Florence Museum; it was captured near Genoa in the autumn of 1843, and is the only specimen which has occurred in Italy. I received it in exchange from the Genoa University Museum; it is in excellent condition.

DROMOLÆA LEUCURA (Gm.).

This species is not rare along the Riviera between Nice and Genoa, whence I have received several specimens. It is much scarcer in Sardinia and Sicily, from what I have gathered; I did not meet with it in Corsica. A specimen was shot near Orbetello on the first of May 1865.

SAXICOLA STAPAZINA (Linn.).

I have seen Italian specimens of this species with the russet colour bleached out, and with a greater amount of black on the throat, thus presenting the garb of the so-called *S. melanoleuca*. The same often happens to the allied *S. albicollis* (Vieill.), alias *S. aurita*, Temm.

CYANECULA SUECICA (Linn.).

I cannot conceive how any specific distinction can be maintained between the different forms presented by the males of this bird. I have in our collection a large series, some with a white, some with a reddish, and others with a yellowish gular spot, while others, again, have no spot at all. Marquis Doria has in his museum a specimen, shot near Genoa, in which the gular spot is half red and half white! Such being the case, it is quite impossible to keep up the distinction between *C. suecica*, *C. wolffi*, and *C. leucocyane*, which are one and the same species.

MELIZOPHILUS SARDUS (La Marm.).

Our collection possesses a specimen of this species, a male, shot at Sestri Ponente, near Genoa, on the 17th of March 1873.

HYPOLAIS PALLIDA (Ehr.).

This species is pretty abundant in Dalmatia, according to Prof. Kolombatovic. I have a male from Salona near Spalato, shot on the 30th of May 1880.

ACROCEPHALUS PALUSTRIS (Bechst.)

Appears to be nearly restricted to the upper valley of the Po; the specimens I have all come from the neighbourhood of Turin.

LUSCINIOPSIS LUSCINIODES (Savi).

Our collection now possesses a splendid series of this fine species, which is very local, but especially abundant in the reed-marshes of Massaciuccoli (Luca).

I have mentioned *L. fluviatilis* amongst the species to be excluded from the Italian ornithology, because I know of no authentic instance of its capture on this side of the Alps; I must, however, add that Count Ninni recently assured me that specimens had been lately captured in Piedmont; but he had not seen them.

AEDON FAMILIARIS (Ménétr.).

I have received three specimens of this species from Nice:—two males, captured, the first on the 5th of January 1878, the second on the 3rd of December 1879; and a female, shot on the 10th of March 1880. All belong undoubtedly to this form. I do not know any instance of the occurrence of the allied *A. galactodes* in Italy; and the specimen mentioned by Mr. C. A. Wright under that name (Ibis, 1874, p. 236) as captured alive in Malta on the 23rd of May 1873, may possibly have been *A. familiaris*. The same may be said of the specimen captured by Prof. Doderlein in the south of Sicily, and which I have not seen. It is, however, no doubt quite possible that the former species may also occur in Italy.

MOTACILLA LUGUBRIS, Temm.

There are two specimens of this eminently English Wag-tail in the Italian collection, both in spring plumage; one was shot near Genoa in 1843, the other near Verona in 1855. There are two specimens of this species in the museum at Syracuse, said to have been caught in the neighbourhood.

BUDYTES RAYI, Bp.

Our collection possesses a single specimen of this species, which is exceedingly rare in Italy; it was received in exchange from the University Museum of Genoa, and was undoubtedly caught in that neighbourhood; it has no date, but is most probably one of those collected by Marquis Durazzo.

BUDYTES FLAVUS (Linn.).

BUDYTES VIRIDIS (Gm.).

BUDYTES MELANOCEPHALUS (Licht.).

Our collection possesses a good series of these three forms, which appear to keep sufficiently distinct; and yet I am doubtful whether they are destined to remain separate.

ANTHUS CERVINUS (Pall.).

This species is less rare with us than is generally believed. Our collection has four specimens, three of which were shot near Florence, and the fourth at Bari.

AGRODROMA RICHARDI (Vieill.).

This is our rarest Pipit. The Italian collection possesses two specimens, both shot in Tuscany, one in 1830, the other in 1843, the latter, a male, near Florence.

ALAUDA ARVENSIS, Linn.

This is a most variable species, as can be seen by looking at the fine series in the Florence Museum; and I can easily understand how it has received divers specific appellations. The residents are always to be distinguished from the migrants. In the "Campagna" about Rome a curious melanistic variety is very common.

MELANOCORYPHA SIBIRICA (Gm.).

On the 14th of May last, while visiting the small Natural-History Museum of Trento, in the Tyrol, which contains a good local collection, I was struck by a specimen of this interesting species: it was labelled "*Alauda arvensis*;" and no one had any idea of its value! I easily obtained it for our museum, and ascertained that it had been shot in the neighbourhood about the middle of November 1869; it is a male. This is very interesting, because a female of this

species was caught near Brighton on the 22nd of November of the same year. This is the first recorded instance of the occurrence of this Lark in Italy.

CALANDRELLA PISPOLETTA (Pall.).

The specimen which I determined several years ago, and which is mentioned by Salvadori in his Appendix, is now in the Florence collection. It is a male, and was caught near Grosseto in March 1870. I believe this to be the only Italian specimen of this species.

OTOCORYS ALPESTRIS (Linn.).

A very rare species with us. Our collection possesses two specimens—one shot near Verona in January 1867, the other, a male, caught near Genoa during the winter of 1860. There is a specimen in the Naples University Museum, shot on the "Campo di Marte," Naples, in the winter of 1871.

PASSERINA MELANOCEPHALA (Scop.).

This is a common summer species in Dalmatia and Istria, and breeds also in Puglia and Terra d'Otranto, on the opposite side of the Adriatic; it is not uncommon in the Riviera di ponente, but very rare in other parts of Italy. I have specimens from Nice, Trieste, and Bari, and have seen it caged at Zara.

PASSERINA AUREOLA (Pall.).

Our collection has received in exchange from the Civic Museum at Nice one of the two type specimens of the *Emberiza sclysii*, Verany, which is merely the immature form of this species. Both were caught alive a short time before the Science Congress of Genoa in 1846, and lived some time in confinement. Our specimen is a young male.

EMBERIZA CÆSIA, Cretzschm.

Our collection possesses five specimens of this rare Bunting—four from the neighbourhood of Nice, male 19th December 1877, female 4th January 1878, male and female March 1880: the fifth was netted at Sinigaglia on the 31st of March 1879; it is an adult male.

EMBERIZA LEUCOCEPHALA, S. G. Gm.

This is also a rare species ; our collection contains four specimens, all males. The first was shot at Mentone on the 8th of January 1877, the second at Marradi, in the Tuscan Apennines, in February 1874: the last two are both from the neighbourhood of Prato, near Florence ; one bears the date of November 1868, the other that of the 5th of November 1878 ; the latter was netted, and kept alive for some time.

EMBERIZA RUSTICA, Pall.

Our collection possesses two specimens of this scarce Bunting, both caught at Genoa, where it not unfrequently occurs. The first is apparently one of the type specimens of *E. lesbia*, Calvi, and was received in exchange from the University Museum, it bears the date of December 1845 ; the second, a female, was caught during the winter of 1869, and was kept alive up to the 27th of May of that year by Marquis Doria, who presented it to me.

EMBERIZA PUSILLA, Pall.

We possess also two specimens of this species, both males and from Genoa. The first, a type specimen of *E. durazzi*, appears to have been presented to the Florence Museum either by Durazzo or Bonaparte during the Science Congress of 1841 : I received the second in exchange from the Genoa University Museum ; it has no date but looks fresh.

EMBERIZA PYRRHULOIDES, Pall.

I cannot agree with Mr. Dresser's mode of distinction between this species and *E. schæniclus*, and his uniting Italian thick-billed specimens with the latter. It would have been far more logical to have abolished altogether any specific distinction between the two forms of Reed-Bunting. I have a large series of Italian specimens of both, and feel perfectly warranted in keeping them distinct. No doubt intermediate specimens do occur now and then ; but hybridism might well account for them, both species breeding with us.

PLECTROPHANES LAPPONICUS (Linn.).

Our collection has a fine specimen of this northern bird, a female, netted near Pistoia about November 1875.

PLECTROPHANES NIVALIS (Linn.).

This is far from being scarce with us during winter, although not every year in the same proportions; and I can assure Mr. Dresser that Italian naturalists are not in the habit of confounding this species with *Montifringilla nivalis*. I don't believe that the Snow-Bunting has ever bred in our Alps.

PASSER ITALIÆ (Vieill.).

This is the only species which is exclusively Italian; and I may add that it professes "Conservative opinions;" for it keeps strictly within our present political frontiers, with the exception of Corsica and Trento, being replaced by *P. domesticus* at Nice and at Trieste, and by *P. hispaniolensis* in Sardinia, Sicily, and Malta.

CHLOROPTILA CITRINELLA (Linn.).

Our specimens are all from the Alps, and, as far as I am aware, very rarely go beyond Northern Italy, even during the winter. It does, however, reach Corsica; for Lord Lilford shot specimens at Porto Vecchio in February 1875, and Mr. C. B. Wharton noticed it about the same time congregating with allied species. I did not see any during my extensive tour in that island in September and October 1877; but it might possibly be a resident in the higher mountains.

CANNABINA FLAVIROSTRIS (Linn.).

This is a very rare species with us; and the Florence collection possesses only one specimen, a male, caught near Genoa in 1839. I have seen a similar specimen in the Trento Museum, caught in that neighbourhood.

ÆGIOTHUS LINARIUS (Linn.).

By no means common, and of irregular occurrence during winter. Our collection possesses three specimens—a male shot near Udine in November 1869, and a pair caught near Nice, the female in 1863 and the male on the 7th of January 1878. I can hardly believe that it breeds in Italy.

ÆGIOTHUS RUFESCENS (Vieill.).

This species, although not frequent, appears to be decidedly more so than the preceding one. I have specimens

from Domodossola, Como, Mezzolombardo (Tyrol), and Barberino (Tuscany). The one from Ossola, a female, was taken off the nest (which I also have) on the 18th of July 1877, by my friend Dr. Pertusi. The nest was in a shrub on the slope of the Veglio Alps, about 2000 metres above the sea-level.

PYRRHULA EUROPEA, Vieill.

At first I was inclined to separate the two races of this species, which are yet considered specifically distinct by some authors under the names of *P. europæa* and *P. major*; but on examining carefully a large series I found that intermediate forms are not rare; and as size alone constitutes the difference between the extremes, I have come to the conclusion that there is only one species of European Bullfinch. Northern specimens are always larger; and even in Italy I have noticed that those shot on the Alps are bigger and have a stouter bill than those found in the plains of Central Italy during the winter.

CARPODACUS ERYTHRINUS (Pall.).

Our collection possesses two specimens of this northern species. The first is that which was presented by Signor Bruscoli to the Science Congress held at Florence in 1841, as *Fringilla incerta*; it is a female and was netted near Florence in August 1840. Our second specimen, also a female, was caught in November 1872 at Palaia, near Empoli.

PINICOLA ENUCLEATOR (Linn.).

We have one specimen of this species, which is of quite accidental occurrence; it is a female, and was caught in the winter of 1876 near Trento (Tyrol). I got it in exchange from Signor De Betta.

LOXIA PITYOPSITTACUS, Bechst.

Our collection possesses a fine male, shot near Verona in December 1869; it is quite accidental with us.

LOXIA BIFASCIATA (C. L. Brehm).

Even scarcer than the preceding; our collection has a male shot in November 1851 near Bolzano in the Tyrol, and

received in exchange from Signor de Betta. A specimen shot in Cadore in 1846 is in the Doglioni collection at Belluno.

STURNUS UNICOLOR, La Marm.

Only found in Sardinia and Sicily, and sedentary; I know of no instance of the capture of this species on the continent. I did not see any in Corsica; neither did Mr. Wharton, who has published in this Journal an interesting list of the birds of that island.

PASTOR ROSEUS (Linn.).

We possess a fine series of this species, which appears to breed in Italy oftener than is generally known. I have in the series a young male shot at Marraddi in the Tuscan Apennines in January 1874, which has nearly assumed the adult plumage and is curiously patched; another, in complete immature garb, was caught near Florence on the 12th of October 1879. Early in June 1875 hundreds arrived at Villafranca, near Verona, following in the wake of a column of locusts; they took possession of the castle, ejecting the Starlings, Swifts, and Owls, and settling in their holes, which they left towards the middle of July, after rearing their young.

CORVUS CORONE, Linn.

A scarce bird in Central and Southern Italy, but not so in Piedmont; our collection has a specimen, a male, shot at Calcinaia, near Greve, Tuscany, in October 1874. Our collection possesses also a specimen of *C. cornix* with the grey of the back and abdomen nearly entirely black; I consider it a melanism rather than a hybrid between the two allied species. I should hardly have thought that *C. corone* would breed so far south as Corsica; but Mr. C. B. Wharton tells us he saw one building its nest in that island ('Ibis,' 1876, p. 24).

PTEROCLES ALCHATA (Linn.).

This species is of accidental occurrence in Italy; our collection possesses a fine male shot near Nice on the 17th of May 1872. Birds appear to have been caught also in Sicily,

as there are two specimens in the museum at Messina, and a male in that of Syracuse. The latter is, I believe, the bird called by Mr. H. Saunders *Syrnhaptes paradoxus* (Ibis, 1869, p. 397), of which species I saw no trace in that museum in 1878.

SYRRHAPTES PARADOXUS (Pall.).

Our collection is in possession of the first specimen which was captured in Italy, during the memorable invasion of 1863. It is a female, and was caught at Predazzo (Valle di Fiemme), in the Tyrol, in May 1863, and was kept alive up to the 21st of March 1867. In the Natural-History Museum at Modena is a fine male, shot in the hills of Pavullo on the 4th of May 1876, evidently a solitary straggler, as no others were seen.

TETRAO UROGALLUS, Linn.

This noble bird is becoming extinct in the Italian Alps, and at the present time limited to the eastern portion; our collection has a fine series of specimens, both male and female, from the Alps of Cadore and Friuli. In the museum at Trento I saw a fine specimen of the hybrid, *T. intermedius*, a male, caught at Monte Tattoga, in Canal S. Bovo (Trentino), about twenty years ago. It is said that similar birds are still to be met with in that locality.

BONASIA BETULINA (Scop.).

This fine species is also getting rarer and rarer with us, and is now only to be met with in the eastern Alps. Our collection possesses a fine male from Mezzolombardo, 8th of November 1877, and another from Fondo, near Mendola, also in the Trentino, 12th of October 1879, and a pair from Rakek (Carniola), 17th of September 1877. They vary much in the general tint; some are more reddish, others grey; and I doubt whether the distinction between *B. betulina* and *B. sylvestris* can be kept up.

FRANCOLINUS VULGARIS, Steph.

No doubt as to the complete extinction of this species in Sicily, its last refuge in Italy, can be entertained. Our col-

lection possesses no less than seven specimens. Of these, two males and a female are Tuscan, amongst the last killed at Artimino, near Empoli, where it appears that this bird was introduced under the Medici; two of these specimens were in the Florence Museum as far back as 1790. The four others are all Sicilian: a pair, male and female, were shot near Caltagirone in April 1850; I received them in exchange from the University Museum at Catania; I have not the dates of the remaining two, which are evidently older. There are two specimens, male and female, still at Messina, two at Catania, and one at Syracuse; a genuine Sicilian specimen is in the Civic Museum at Genoa.

PERDIX SAXATILIS, Meyer.

This species ranges along the Alps and down the central chain of the Apennines into Sicily, where it is the only species. It is also common in Dalmatia, where this species, and not *P. chukar* (if that be really distinct), is found.

PERDIX RUBRA, Briss.

Occurs in the lesser branches of the northern and central Apennines, in the islands of Elba and Montecristo, and all over Corsica, where it is the *only* species*.

PERDIX PETROSA (Gm.)

Is entirely confined to Sardinia.

TURNIX SYLVATICA (Desfont.).

Very local, and only found in Sicily. Our collection pos-

* While in Corsica I was repeatedly assured of the presence in the island among the hills of Aleria, on the eastern coast, of the Pheasant (*Phasianus colchicus*) in a perfectly wild condition. I see that Mr. Jesse reports the same thing, though Mr. C. B. Wharton does not mention this species in his list of Corsican birds. I am still making inquiries on the subject; but, so far as I can see, no record of its introduction by man is forthcoming. Should such remain the case, I shall not hesitate to add the Pheasant to the list of our indigenous species. The fauna of Corsica has stranger points; and the island which held (up to Neolithic times) living *Myolagus*, and now divides with Dalmatia the home of that curious lizard *Podarces oxycephalus*, may have retained from an epoch not more remote than the days when the Argonauts sailed from Colchis, the famed *φασιανὸς*, which is to our day wild in the forests of Albania.

sesses a male shot in the spring of 1857 near Caltagirone. I have seen specimens in the museums at Catania and Syracuse.

HOUBARA MACQUEENI (J. E. Gray).

Our collection possesses a very fine female specimen of this species, shot near Rome on the 16th of December 1859; another specimen, also a female, was captured during the last days of November the same year, also in that neighbourhood, and is still in the University Museum at Rome. These are the two specimens mentioned by Salvadori (who had not examined them) under the name of *H. undulata*; and they are the only specimens of this species caught in Italy which have been preserved. As to the Houbara mentioned as in the Syracuse Museum by Mr. H. Saunders (*Ibis*, 1869, p. 397), and after him by Prof. Doderlein, there must be some mistake; for I carefully went over that museum in October 1878, and the only Bustard there was an *Otis tarda*! I was assured by the keeper that none of the specimens had been removed. I have found in this species, as well as in the other two Bustards which occur in Italy, that the basal portion of most of the body-feathers is of a vivid lilac-vinaceous colour; I have never met with any mention of this singular character.

CHETTUSIA GREGARIA (Pall.).

Our collection possesses a young female, picked up in the market near the Pantheon at Rome in November 1872 by Prof. V. de Romita, from whom I received it in exchange. It is worthy of remark that, of the three specimens of this species which have been captured in Italy, two were taken near Rome, and a third not very far off, viz. at Siena.

CHETTUSIA VILLOTÆI (Audouin).

Our collection has the second specimen caught at Malta, and mentioned by Mr. Wright (*Ibis*, 1870, p. 491). It is a female, and was captured on the 24th of October 1869; I received it in exchange from the Malta University Museum.

CUSCIBUS GALLICUS (Gm.).

A rare bird with us; our collection has two specimens—

one captured at San Rossore, near Pisa, in the spring of 1837, the other shot in the Marsa, near La Valletta, Malta, on the 15th of March 1843.

PHALAROPUS HYPERBOREUS (Linn.).

Quite of accidental occurrence, but has been caught on several occasions near Genoa; our collection has one specimen, shot in the neighbourhood of that place in the winter of 1843.

PHALAROPUS FULICARIUS (Linn.).

It is worthy of remark that this species, which is also very rare in Italy, has been more often caught near Genoa. I have a specimen from that locality shot in August 1845, and mentioned by Marquis Durazzo; it was in the University Museum. A second specimen in our collection was, strange to say, also shot in August, 1870, at Borgo S. Lorenzo, not far from Florence; it is in full winter plumage! I have seen a specimen in the Naples University Museum, caught in December 1869 at Capo d'Agnano; a second one was shot near the same locality in February 1870.

LIMICOLA PLATYRHYNCHA (Temm.).

We have a large series of this species. Up to a few years ago it was considered a great rarity in Italy, until my friend Count Ninni showed that it often made its appearance in the Venice lagoons during August. This summer I received no less than twelve specimens, part of forty-three shot from a large flock on the 25th of August near Venice. In August 1873 several were shot near Pavia.

PELIDNA MARITIMA (Brünn.).

Of very rare occurrence in Italy. Our collection has two specimens, both in winter dress—one shot in Tuscany in the autumn of 1838, the other at Genoa in the autumn of 1858.

TRINGA CANUTUS, Linn.

This is also a rare species with us, and more frequently occurs along the Genoa Riviera. Our collection possesses seven specimens, three from Nice (30th April 1863), and a

male and two females, 7th June 1880; the seventh, a male, was shot at Palo, near Civita Vecchia, in April 1871.

TEREKIA CINEREA (Güldst.).

I was fortunate enough to pick up a fine specimen of this very rare bird in the market at Florence; it was a female, shot at the Saline near Barletta, on the 20th of November 1876. The only other instance I know of the occurrence of this species in Italy is that mentioned by Savi and Salvadori, when three were shot out of a small flock on the 9th of May 1869, at Vecchiano, near Pisa.

LIMOSA RUFA, Briss.

A scarce bird with us; our collection possesses a single specimen, shot in autumn 1839, near Florence.

GALLINAGO MAJOR (Gm.).

This species, as well as the common Snipe, presents individual variations in the number of the rectrices; and I have in the collection a specimen with eighteen tail-feathers (the number given by Savi, Orn. Tosc. ii. p. 309), the normal number being sixteen. Thus the specific distinction between *G. scolopacinus* (or *cælestis*!) and *G. brehmi*, founded merely on a like character, falls to the ground.

PORPHYRIO CÆRULEUS (Vandelli).

This is *the* Italian species, and is not rare in Sardinia and in Sicily, but is not easy to be got at; for it keeps to the thickest of the marsh-reeds, which must be sometimes fired to make it rise. It breeds beyond doubt in the former island; and as recently as the 26th of last September four specimens in juvenile garb were shot in the marsh of Assemini, not far from Cagliari: I have received one of them, a male. In Sicily it is a resident species in the marshes at Lentini, between Catania and Syracuse, whence I have a pair, male and female, shot in December 1879; moreover all the Purple Waterhens I have seen in the museums at Messina, Catania, and Syracuse belong to this species. I am not aware of its occurrence in Corsica; but there is no reason why it should not be found in the marshes of Biguglia

and Aleria. It has repeatedly occurred on the continent; and, besides the cases mentioned by Salvadori (Faun. d'Ital. Ucc. pp. 236, 320), I have seen a specimen shot at Ancona, which was found in the Florence market during the winter of 1872. This and, I believe, all other species of *Porphyrio* have a rudimentary spur on the wing.

PORPHYRIO SMARAGDONOTUS, Temm.

This is of rare occurrence in Italy; our collection possesses but one specimen, caught in the marshes whence flow the rivers Cyane and Anapo, near Syracuse, in October 1851. Besides two specimens from Sardinia in the Turin Museum, and several living ones received by the King of Italy from Sicily ten or twelve years ago, which are mentioned by Salvadori, I have seen two specimens in the Naples University Museum, said to have come from Lentini (Sicily); and there is another in Finger's collection at Vienna, caught on the Narenta in Dalmatia.

HYDROBORNIA ALLENI (Thomps.).

Our collection possesses the fine nearly adult specimen which I have figured in part ii. of my '*Avifauna Italica*,' shot on the 20th of December 1874, at Massaciuccoli, near Lucca, by Count G. Ottolini. I have since examined again the first specimen of this species captured in Italy (autumn 1857) and now in the Pisa Museum; it is a young bird with scarcely any trace of the blue and green, and in a condition which precludes the doubt that it may have escaped from captivity. It is strange indeed that both these specimens should have been captured near Lucca.

FULICA ATRA, Linn.

Our collection possesses two interesting specimens of this very common species. One, shot at Cagliari in November 1877, has the underparts white and looks like a young bird; the other, caught at Massaciuccoli on the 3rd of January 1879, is a female, and has the wings curiously tinted with rose-colour.

FULICA CRISTATA, Gm.

This is a very rare species with us, but appears to have

been more abundant some years ago, at least in Sardinia. Our collection possesses two specimens—a male from Lentini, October 1864, and a female from Cagliari, not dated, and received in exchange from that museum.

GRUS COMMUNIS, Bechst.

It is not generally known that the Crane breeds in Italy. A few pairs do so every year in the extensive marshes along the Adriatic, north of Venice; I have received a chick in down from that locality, presented by Count Ninni. The peasants there are in the habit of robbing the nests, and place the eggs to hatch under hens; they sell the young birds alive to be kept in gardens.

EGRETTA ALBA (Linn.).

Not common on our continent, more so in Sardinia; it occurs more frequently in the Venetian province, but rarely during the spring passage. I have never seen specimens with a black bill.

BUBULCUS IBIS (Hasselq.).

Of accidental occurrence in Italy, and more frequently along the "Riviera;" our collection has a single specimen from Genoa. There is a specimen in the Malta University Museum said to have been captured in the island.

PLATALEA LEUCORODIA, Linn.

A rare species. Our collection possesses four specimens:—an adult male, Pisa, spring of 1836; an adult female, Siena, 1842; a female, Cagliari, March 1877; and a young bird with a curious short bill of a yellowish-white colour, shot near Rome in the spring of 1873.

PHÆNICOPTERUS ROSEUS, Pall.

I know of few species of birds which vary so much in size as the present one; our collection possesses a fine series of specimens, showing admirably such individual variations. The following are the proportions of two adult males, one, the largest, shot at Orbetello (Tuscany) on the 3rd of March 1879, the other shot at Cagliari in February 1879; they are

the extremes of my series amongst the perfectly adult specimens :—

	a. Orbetello.	b. Cagliari.
	metre.	metre.
Height	1·490	1·120
Tibia (naked)	0·250	0·170
Tarsus	0·350	0·260
Bill (length from rictus) .	0·113	0·100

It is on such pygmy specimens, as the one from Cagliari, which are not uncommon, that *P. erythræus*, Verr., was founded.

I believe there can be no doubt that the Flamingo does occasionally breed in Sardinia; I have quite recently received a young and very small specimen shot on the 30th of October on the Stagno of Quartu, near Cagliari, where Flamingoes have been taken in July.

CYGNUS OLOR (Gm.).

Not common in the wild state, and only met with during severe winters; I have one shot near Genoa in 1860. All the specimens I have examined in Italian Museums belong to this species, and not to the closely allied *C. immutabilis*.

CYGNUS MINOR, Pall.

I have had the good fortune to add this fine species to the Italian avifauna; our collection possesses a magnificent adult female, shot in January 1874 at Massaciuccoli, near Lucca, out of a small flock, and presented by my friend Count E. Minutoli. It is the only specimen I know of in Italian Museums.

+ANSER ALBIFRONS (Scop.).

Our rarer species. The Italian collection at Florence possesses a specimen shot near Rome in December 1874; I have besides seen one caught in the neighbourhood of Naples in February 1870, in that University Museum. This species has been shot in 1860 and in 1874 in the neighbourhood of Pavia.

+BERNICLA BRENTA (Briss.).

Quite accidental with us, but less unfrequent in Northern

Italy ; we have a fine male shot on the 4th of March 1862 near Nice, and another from Venice.

BERNICLA RUFICOLLIS (Pall.).

One of the gems of our Italian ornithological series is an adult male of this splendid Goose, shot at Scarperia, near Florence, on the 12th of February 1869 (*vide* Ibis, 1869, p. 242). I have since seen another specimen, which looks like a female, in the private collection of Count D'Arco, at Mantua ; it was shot in that neighbourhood many years ago.

†CASARCA RUTILA (Pall.).

Our collection possesses two fine specimens of this beautiful bird, which is a great rarity in the Italian ornis. The first, an adult male, was shot in Tuscany in 1839 ; the second, a female, was shot in December 1842 at Lentini. I received the latter in exchange from the Catania University Museum, where a second female still remains ; I saw a third Sicilian specimen in the Syracuse Museum. Apropos of the latter, I almost believe that it may have been the innocent cause of the alleged presence in that museum of a Sicilian specimen of *Chenalopex ægyptiacus* ; such curious blunders appear to have been made in the Syracuse Museum !

TADORNA CORNUTA (S. G. Gm.).

According to my experience this is by no means a rare Duck in Italy : and I can add that it occasionally appears to breed here ; for our collection has a very young female shot at Massaciuccoli on the 14th of August 1878.

MARMARONETTA ANGUSTIROSTRIS (Ménétr.).

This is a very rare species in Italy, and occasionally occurs in Sardinia and Sicily. Our collection possesses the specimen which was figured in Bonaparte's 'Fauna Italica,' a male, shot near Cagliari in June 1839, and still in perfect condition. It was received in exchange from the Genoa University Museum, and once belonged to Marquis Durazzo. A male of this species is in the Naples University Museum, shot with two more, one of which is now in Switzerland, at Vico in 1858.

HARELDA GLACIALIS (Linn.).

This northern species occurs not unfrequently in Upper Italy, especially in the Venetian province; our collection has three specimens—two males from Nice, one nearly adult, shot on the 12th of January 1878, and a young female shot on the lake of Garda during the winter of 1865.

ÆDESMIA NIGRA (Linn.).

I know only of a single instance of the capture of this species in Italy: our collection possesses the specimen which was taken at Massaciuccoli in November 1830; it is an adult male, and is mentioned by Savi. I may add that two adult males of this species, said to be Italian, are at Verona—one at the Academy, the other in the Perini collection.

ÆDESMIA FUSCA (Linn.).

During the last three years this species has been more frequently caught in Italy; and our collection possesses a fine series, both adult and young, shot at Massaciuccoli, Venice, and Comacchio.

SOMATERIA MOLLISSIMA (Linn.).

I only know of two authentic instances of the occurrence the Eider in Italy proper, both young birds. The first was shot many years ago near Pisa, the second, a male, in October 1856 at Savona; this specimen is in our collection, to which it was presented by that distinguished ornithologist the Abbé Armand David, who got it in the flesh while professor at Savona. An adult male in Finger's collection in the Vienna Museum is said to have been caught on the 7th of May 1859, at Trau, near Spalato, in Dalmatia.

ERISMATURA LEUCOCEPHALA (Scop.).

This is a rare species even in Sardinia, where it most frequently occurs. Our collection possesses four specimens, male and female, from Lentini (Sicily), Cagliari, Barletta, and Ostia; the last, a magnificent male, was shot with three others on the 29th of March 1880.

MERGUS MERGANSER, Linn.

A rare species in Italy. Our collection contains four speci-

mens—two adult males and two females, one in juvenile garb; they are respectively from Comacchio, Lugo, Borgo S. Lorenzo (Florence), and Mantua.

PELECANUS ONOCROTALUS, Linn.

Of accidental occurrence; our collection possesses two specimens—a male shot in autumn 1868 at Castelfiorentino, near Siena, and a female shot in June 1836 at Empoli.

PELECANUS CRISPUS, Bruch.

Salvadori doubts of the occurrence of this species in Italy proper; and, as far as his informations went, he was perfectly correct; but our collection possesses a magnificent male which was shot at Norantola, near Modena, in 1865, and placed until very lately in that museum under the name of *P. onocrotalus*, being so called by Prof. Doderlein (Avif. Mod. e Sicil. p. 224). I discovered the mistake, and secured the specimen through exchange. A second *P. crispus* in our collection is a female which was shot at the mouth of the Narenta on the 18th of May 1880.

MICROCARBO PYGMÆUS (Pall.).

This is our rarest Cormorant; but it has several times been caught in Italy; our collection has a single specimen from Cagliari, May 1831. Besides the specimens mentioned by Salvadori, I have seen one in Count D'Arco's collection at Mantua, shot there; and two at Verona, both said to have been shot on the lake of Garda: one is in the museum of the Academy, the other in Signor De Betta's private collection. A male shot in the Royal Park of Racconigi, near Turin, is in the Craveri collection at Brà, Piedmont.

SULA BASSANA (Linn.).

I have had the good fortune to add also this interesting species to the Italian avifauna during the short space of five years that I have been engaged in collecting Italian Vertebrata. Our collection possesses a young male still in dusky plumage, caught with a harpoon in the Piombino channel on the 5th of November 1877, by a fisherman; it is as yet unique.

+ PUFFINUS ANGLORUM (Temm.).

This species is not rare on some parts of our coasts, but never as abundant as *P. kuhli*. It varies much in size; and our collection has a very diminutive specimen obtained in exchange from the Genoa University Museum, where it stood as *P. obscurus*; it is a female, and was shot near Genoa in August 1845. I quite agree with Mr. Dresser and others in uniting *P. yelkouan* with *P. anglorum*.

+ PROCELLARIA PELAGICA, Linn.

Usually this species is met with abundantly about ten or fifteen miles off the Mediterranean coasts, very rarely nearer shore. Our collection has a fine series, mostly from Genoa. I found the egg on Lisca Nera, one of the smaller Lipari islands.

+ SYLOCHELIDON CASPIA (Pall.).

Quite accidental within our subregion. Our collection possesses a single specimen, shot in March 1862 at Cagliari. I have seen two specimens in the University Museum at Padua, said to have been caught in the neighbouring "valli." I doubt considerably whether the two males in the Pavia Civic Museum were really captured in Tuscany, as is recorded on their labels.

+ THALASSEUS CANTIACUS (Gm.).

Our collection possesses specimens of this species from Nice, Genoa, Portoferraio (Elba), Lesina (Gargano), and Comacchio; it is less rare than is generally believed. During the breeding-season the silky white underparts are tinged with a lovely salmon-colour.

+ STERNA HIRUNDO, Linn.

Italian authors have usually applied this name to our commonest Tern, viz. *S. fluviatilis*. The northern bird is exceedingly rare with us; and I know only of the single specimen now in the Florence Museum, which was in that of Genoa, and is the specimen mentioned by Durazzo and Salvadori.

† STERNA DOUGALLI, Montag.

I was fortunate enough to secure by exchange the only specimen I know of caught in Italy. It was formerly in Baron Ricasoli's collection, which was presented to the Siena Natural-History Museum. Baron Ricasoli assured me that it was sent to him from Massaciuccoli in May 1835.

† ONYCHOPRION FULIGINOSUS (Gm.).

Our collection possesses the only specimen caught in Italy: it is the one mentioned by Salvadori, and was caught on the 28th of October 1862, in a net for trout on the torrent Chisone, near Perosa-Argentina (Fenestrelle), in Piedmont. I purchased it from Signor Scarafia, who mounted it himself from the flesh.

† GELOCHELIDON ANGLICA (Montag.).

Uncommon. Our collection possesses fine specimens from Pisa, Massaciuccoli, and Bari.

† HYDROCHELIDON HYBRIDA (Pall.).

Rather rare. Our collection has specimens from Genoa, Massaciuccoli, and Pisa: the latter is the place where it most frequently occurs.

† HYDROCHELIDON LEUCOPTERA (Schinz).

This species is far from being as abundant as *H. nigra*; but I have several times seen both flying together over the Arno, at Florence, in May.

CHROICOCEPHALUS RIDIBUNDUS (Linn.).

Our commonest Gull. It often varies in size; and it was on small specimens that Bonaparte founded his *Xema capistratum*.

CHROICOCEPHALUS MELANOCEPHALUS (Natt.).

Of eight adult specimens in our collection (one alone in winter plumage and one with incipient hood), six have the primaries perfectly white at the extremity; two alone, with full black hoods, present the primaries largely tipped with black.

† CHROICOCEPHALUS MINUTUS (Pall.).

Rather scarce. Our collection possesses seven specimens

in different stages of plumage—two from the neighbourhood of Pisa, two from Massaciuccoli, one from Spezia, another from Montepulciano, and the last from Barletta.

GELASTES GENEI (Bréme).

Our collection contains four specimens of this beautiful Gull—one an adult male, richly tinted with rose-colour; all are from Cagliari. I have seen specimens of this species in most Sicilian museums.

—*RISSA TRIDACTYLA* (Linn.).

As Salvadori rightly observes, this is a rare bird with us; and yet I have succeeded in securing no less than six specimens—one an adult male caught near Lucignano, in Val di Chiana, Tuscany, on the 25th of February 1879. The others are from Pinasca (Pinerolo), Portoferraio (Elba), Genoa, and Bari.

LARUS AUDOUINI, Payraud.

Our collection contains four specimens of this rare and interesting Gull, and three eggs. The specimens are all fully adult. The first was shot in March 1877 in the Gulf of Palmas (Sardinia); it is a male; the two next, male and female, on the island of Vacca (Sardinia) on the 4th of May 1878; the eggs were collected on that occasion; the last was shot at Portoferraio (Elba) on the 30th of January 1879, and is a female. These are the only specimens I have seen in our Italian museums; the one quoted by Salvadori as in the Genoa Civic Museum is merely an adult *Larus canus*.

LARUS CACHINNANS, Pall.

An abundant species. The adults in all seasons have the head and neck pure white without any trace of brown specks, and the legs and feet of a bright yellow. The young have always flesh-coloured legs, and cannot possibly, I believe, be distinguished from the young of *L. argentatus*. I have found it breeding on the small islands of the Piombino channel and at Gianutri; it also breeds on the islands off Sardinia, and in the Venetian lagoons.

LARUS FUSCUS, Linn.

According to my experience this species is not common in Italy. Our collection has two adults, male and female, and a young specimen from Genoa, and an immature bird from Cagliari.

† LARUS MARINUS, Linn.

Quite accidental. I have a single immature specimen from Genoa, received in exchange from the University Museum of that city. I have seen several adult specimens in the Carraro and Perini collections at Verona; but it is very doubtful whether they were captured in Italy.

‡ LESTRIS POMATORHINUS, Temm.

This is a rare species in Italy, but less so than its two smaller congeners. Our collection possesses three specimens—an adult female shot at Genoa on the 31st of May 1876, and two young birds in dark plumage, one shot during the winter of 1855 near Pinerolo (Piedmont), the other in the winter of 1839 near Pisa.

‡ LESTRIS PARASITICUS (Brünn.).

Salvadori gives this name to *L. crepidatus*, and mentions this species as *L. buffoni*, assigning doubtfully to it a specimen in the Turin Museum shot in that neighbourhood. Our collection possesses three undoubted *L. parasitici*, all immature: the first was shot during the winter of 1854 near Pinerolo; the second, a male, on the 17th of October 1876, at Nice; the third, a female, was shot on the 15th of September 1880, near Pisa.

† FRATERCULA ARCTICA (Linn.).

Our collection has no less than eleven specimens of this species, of both sexes and in every possible stage of plumage and of bill; most are from Genoa, one from Viareggio, one from S. Vincenzo (Maremma), and one from Nice. Most of them were shot during the winter; but I have two caught as late as the 27th of May, and I should not at all be surprised to hear that the Puffin occasionally breeds in the Mediterranean. I have seen three specimens of this species

in the Syracuse Museum, said to have been shot in that neighbourhood ; and Prof. Doderlein has six from Palermo !

†UTAMANIA TORDA (Linn.).

What I have said regarding the probable breeding of the Puffin along our shores may be equally applied to the Razor-bill, of which our collection has five specimens, two of them in full summer garb, the latter having been shot near Genoa on the 16th of May 1880. This species has occurred much further south ; and I noted two specimens in the Syracuse Museum.

†COLYMBUS GLACIALIS, Linn.

Amongst the gems of our ornithological series is a beautiful adult female of this species in full nuptial plumage, shot on the 19th of June 1878, at Monterosso, near Spezia. Our collection has besides a male in winter garb, shot at Massaciuccoli in November 1875. This is the scarcest Diver with us.

†COLYMBUS ARCTICUS, Linn.

According to my experience, and in opposition to that of my friend Salvadori, this species more frequently occurs in Italy than either of the others. It presents great individual variations in size ; and, were it not for the different shape of the bill, the male of this species might in the uniform winter plumage be easily taken for the larger *C. glacialis*. Our collection possesses a fine series, and amongst them a splendid female in full summer garb, shot in May 1877 at Zaule, near Trieste.

†COLYMBUS SEPTENTRIONALIS, Linn.

Our collection also possesses a fine series of this species, shot mostly at Massaciuccoli and Fucecchio, one as far south as Velletri ; one from the first-named locality has nearly donned its summer plumage.

PODICEPS GRISEIGENA (Bodd.).

One of the rarest Grebes in Italy, but less so in the northern provinces. Our collection possesses six specimens, one of which was shot at Mirandola (Modena), a male in full

summer dress; the rest are all in winter garb. Two, male and female, are from Elba; and one was shot in August near Palmaria (Spezia).

PODICEPS AURITUS (Linn.).

A very rare species with us, and, I believe, has only occurred in winter. Our collection possesses three specimens—one from Genoa, the other two shot at Massaciuccoli on the 1st of December 1878; they are male and female. Most Italian authors have applied the name of this species to our common *P. nigricollis*.

XVI.—*Notes on Woodpeckers.*—No. I. *On the Piculets of the Old World.* By EDWARD HARGITT.

(Plate VII.)

THE present paper is the first of a series of small articles which I trust to be able to contribute to the pages of 'The Ibis' on the family of Picidæ, in which I have been for years interested, and of which I have managed to get together a considerable collection. Not long ago, in examining some of the birds at the British Museum, I discovered among the specimens of *Vivia* an example from China which was evidently referable to a new and hitherto undescribed species; and in giving a description of this interesting bird, I have added some notes on the other Piculets of the Old World, with a view to determine the present state of our knowledge of this little group. There are now five species known, which, in my opinion, may be referred to three well-characterized genera, which may be diagnosed as follows:—

a. digitis 4.

a'. regione oculari plumosa; cauda longiore, ultra remigum extremitates extensa; cauda longiore quam tarsus cum digito medio ungueque conjunctus . . . *Vivia*.

b'. regione oculari nuda; cauda brevior, alas haud attingente, et tarsum cum digito medio ungueque conjunctum vix æquante *Verreauxia*.

b. digitis 3,

regione oculari nuda *Sasia*.